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ADJUSTMENT OF OPTICAL FOCAL LENGTH BY INTERPOSING A LENS IN THE OPTICAL PATH

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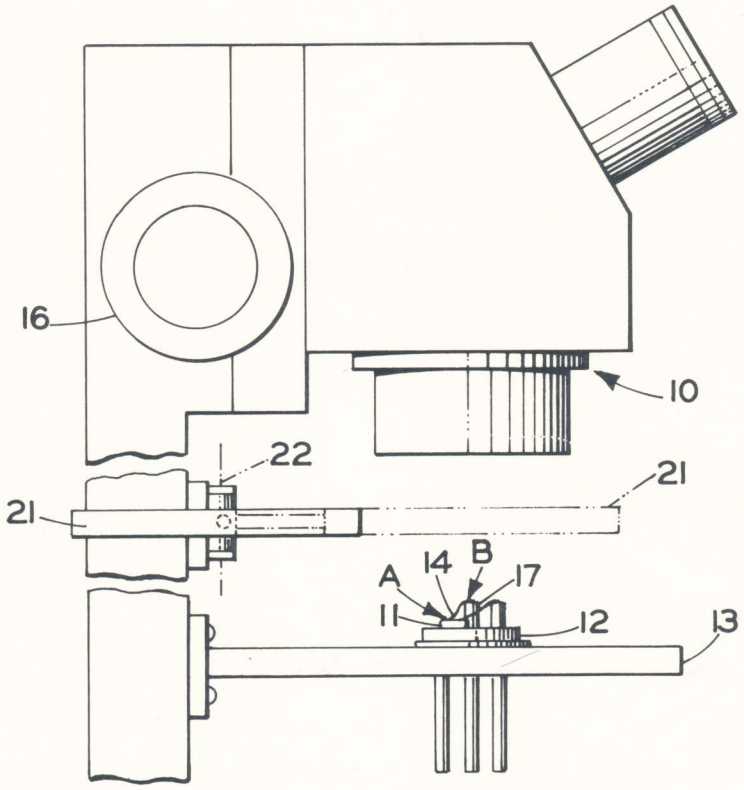
Reading



During the manufacture of an electrical component, such as a transistor mounted on a header, it becomes necessary to observe portions thereof under a microscope so that accurate bonding can take place.

In the past, for example, an operator looked through a microscope 10 both to sight a semiconductor chip 11, which was bonded to a header 12 cradled on a suitable support 13, and to bond one end of a wire 14 to the chip 11 at point A. Then, the microscope 10 was focused on the top of a post 17 by turning the adjustment 16. The other end of the wire 14 was bonded to the top of the post 17 at point B.

The next header to be bonded required the microscope to be refocused on point A. The continual adjustment and readjustment of the microscope, in accordance with prior practice, is time consuming and arduous.

This problem is solved by initially adjusting the microscope so that point A is in focus. A lens 21 is provided, pivotable about an axis 22, which may be interposed in the optical path of the microscope 10 to bring point B into focus.

The lens 21 can be interposed into the optical path and removed therefrom with less time and effort than by constant refocusing of the microscope 10. The lens 21 can be interposed in the optical path either manually or automatically by means such as a rotary solenoid.

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